

## Yongqin Jiao



Yongqin Jiao, a staff scientist in LLNL's Biosciences and Biotechnology Division, is heading in a new direction when it comes to her research in environmental microbiology.

As the recipient of a Department of Energy Office of Science 2011 Early Career Research Program award, Jiao, 32, plans to help establish her laboratory as well as a scientific niche, which best suits her background in geobiology with the \$2.5 million grant over five years.

Jiao graduated from Caltech in 2007 with her Ph.D. and was hired at the Laboratory as a postdoc upon graduation by Michael Thelen. She was converted to a staff scientist in 2010 and is a member of Felice Lightstone's group within the Biosciences and Biotechnology Division.

Jiao earned her award for her research in how microbes play a major role in the stability and transportation of uranium in natural aquatic systems.

"I have been thinking a lot in the past year on where my research should go," Jiao said. "Studying microbes' impact on the environment has been one of my long-term research interests and goals. This award came at a perfect time as I am trying to establish my laboratory, and select a research area that I am passionate about."

She plans to collaborate with Jennifer Pett-Ridge and Peter Weber at LLNL, as well as colleagues at Stanford University and Lawrence Berkeley National Laboratory.

Jiao's research project will focus on the biological systems of the bacterium *Caulobacter crescentus* that allow it to detect uranium in the environment, accumulate the metal at the cell's surface, and use it to generate energy via respiratory metabolism (essentially "breathing" uranium). The long-term goal is to develop a conceptual model of uranium cycling that could be used to understand processes occurring at contaminated sites and design potential bioremediation strategies.

"This award came as a total surprise," Jiao said. "I still can't believe I am so lucky. At the same time, I feel completely honored and humbled to receive this award.

Compared to a respected professor from Caltech who received the award last year, there is still a long way for me to go to build up my research credentials and contribution."